No. 857,235. PATENTED JUNE 18, 1907.

K. GOSSWEILER,

MEANS FOR DRAWING HOLLOW ARTICLES.

APPLICATION FILED NOV. 12, 1906.

Fig. 1.

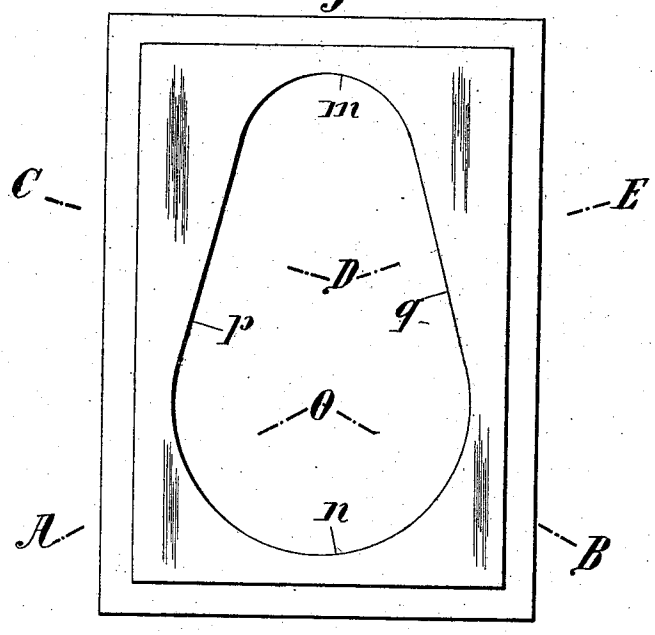


Fig. 2.

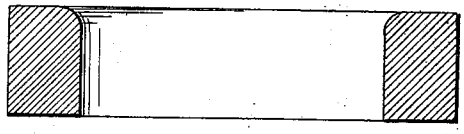


Fig. 3.



Witnesses
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MEANS FOR DRAWING HOLLOW ARTICLES.

No. 857,235. Specification of Letters Patent. Patented June 18, 1907.

Application filed November 12, 1906. Serial No. 343,109.

To all whom it may concern:

Be it known that I, KARL GOSSWEILER, a citizen of the Empire of Germany, residing at Vienna, 48 Wolfganggasse, in the Empire of Austria-Hungary, have invented certain new and useful Improvements in Means for Drawing Hollow Articles, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in matrices of that class wherein articles of sheet material are formed in predetermined shapes by being drawn through an opening in the matrix and the invention has to do with a novel and improved construction of the forming margins of said opening whereby certain important and advantageous results hereinafter to be described may be obtained. Heretofore in matrices of this character the forming margins of the opening have not only been rounded at a relatively long radii but the rounded portions have been uniform throughout the opening irrespective of the character or shape of the article to be drawn. In matrices constructed with a uniformly shaped forming margin throughout the opening creases or folds are formed indiscriminately in the finished product as a result of the drawing operation and furthermore the number of creases and folds are materially increased.

It is the object of the present invention to so form the margins of the opening in the matrix as to decrease as far as possible the number of folds or creases and to regulate their location and also decrease their size.

The invention will be more fully described in connection with the accompanying drawing and will be more particularly set forth and ascertained in and by the appended claims.

In the drawing:—Figure 1 is a plan view of a matrix embodying the main features of my invention. Fig. 2 is a section view on line A—O—B. Fig. 3 is a section on line C—D—E.

Like characters of reference designate similar parts throughout the different figures of the drawing.

By way of example a matrix is shown adapted to produce an article oblong in cross section, *i. e.* having a relatively large rounded portion at one point, a relatively small rounded portion at an opposite point which rounded portions are connected with flat sides. The large and small rounded portions of the matrix shown are indicated by n and m and the flat portions by p and q. The edges or margins of the matrix shown are so formed that the creasing or folds in the material drawn through the opening are located almost wholly at the rounded portions m and n in order that the flat portions formed by p and q may present a continuously smooth finished surface. To this end the forming margins throughout the rounded portions n and m are curved at a relatively long radii as shown in Fig. 2 with respect to the radii of curvature of the straight margins p and q which form the flat portions of the product as shown in Fig. 3. Preferably and in order to obtain good results the rounded portions of one radii of the forming margins gradually merge into the rounded portions of the other radii the extent of gradation of such merging or transition being dependent upon the character of the material and the results desired.

It will be understood that the invention is not limited to the formation of a product oblong in cross section or of any other particular cross section, the invention consisting broadly in the formation of or shaping of the forming margins of a matrix opening of different radii or shapes to distribute the location of folds or creases at desired points and to also control the size and shape of such creases and folds it being understood that no limitation is to be read into the invention by reason of the specific disclosure made except such limitations as the claims import.

Claim.

1. A matrix for shaping hollow bodies comprising a matrix body portion provided with an oblong opening having circular and straight portions, the margins of said circular and straight portions being transversely rounded, the radii of curvature of the margins of the straight portion being relatively less than the marginal curvature of the circular portions.

2. A matrix for shaping hollow bodies comprising a matrix body portion provided with an oblong opening having circular and straight portions, the margins of said circular and straight portions being transversely rounded at different radii.

3. A matrix for shaping hollow bodies comprising a matrix body portion provided with an opening having circular and straight portions, the margins of said circular and straight portions being transversely curved at different radii.

4. A matrix for shaping articles comprising a matrix body portion having a single opening provided with a plurality of forming margins rounded at different radii, the margin of one radii gradually merging into the rounded margin of other radii.

5. A matrix for shaping hollow bodies comprising a matrix body portion provided with a single opening the upper margin of which is rounded at different radii, the rounded portion of one radii gradually merging into rounded portions of other radii.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

KARL GOSSWEILER.

Witnesses:

FRIEDRICH BRINLER,

ALVESTO S. HOGUE.